

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) An apparatus, comprising;

a data input device, the data input device comprising:

a light source configured to generate a substantially continuous lamina of light,
the substantially continuous lamina of light being generated when the data input device is on;
and

an optical position detection device, optically coupled to the substantially
continuous lamina of light, and configured to detect data entries to the input device by
determining the location of interrupts in the substantially continuous lamina caused when
data is entered to the input device.

2. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous
lamina comprises:

(i). a one dimension plane defined by a first axis;

(ii) a two dimensional plane defined by a first axis and a second axis; or

(iii) a three dimensional space defined by a first axis, a second axis, and a third axis.

3. (Previously Presented) The apparatus of claim 1, further comprising a display screen, the
lamina of light being positioned in the free space adjacent the display screen, whereby the
substantially continuous lamina of light in the free space adjacent to the display screen is

interrupted when data entries directed to the display screen are made by contacting the display screen.

4. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light is of uniform intensity.

5. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light is of non-uniform intensity.

6. (Previously Presented) The apparatus of claim 1, wherein the light source configured to generate the substantially continuous lamina of light is a collimated light source.

7. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light has:

(i) an extended wavelength range from 350 to 1100 nanometers;

(ii) a narrow wavelength range within 2 nanometers; or

(iii) a substantially homogeneous wavelength.

8. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light has a wavelength determined by:

(i) an incandescent light source used to generate the substantially continuous lamina of light;

(ii) a specific wave length range substantially matching the response profile of a light receiving element used in the optical position detection device;

(iii) an Light Emitting Diode;

(iv) a Vertical Cavity Surface Emitting Laser (VCSEL), or

(v) an IR wavelength generator used to generate the substantially continuous lamina of light.

9. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light is continuously on during operation of the data input device.

10. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light is periodically cycled on and off during operation of the data input device.

11. (Previously Presented) The apparatus of claim 1, further comprising a subtraction device configured to subtract the measured ambient light during an off cycle of the substantially continuous lamina of light from the measured light during an on cycle of the lamina of light.

12. (Previously Presented) The apparatus of claim 3, wherein the display screen is for one of the following types of devices: a data entry device, a personal computer, a workstation, a computer server, a point of sale terminal, a mobile computer, a personal digital assistant (PDA), a cell phone.

13. (Previously Presented) The apparatus of claim 1, wherein the light source is positioned on one side of the substantially continuous lamina of light opposed to the optical position detection device located on the opposite side of the substantially continuous lamina of light.

14. (Previously Presented) The apparatus of claim 13, wherein the light source is generated from one of the following:

(i) a point source and a collimating lens; or

(ii) an LED.

15. (Previously Presented) The apparatus of claim 1, wherein the optical position detection device further comprises:

a light receiving array, the light receiving array configured to detect the position of an interrupt in the substantially continuous lamina of light caused during a data entry to the data input device; and

a processor, coupled to the light receiving array, the processor configured to calculate the coordinate of the interrupt on the substantially continuous lamina of light based on the position of the interrupt as detected by the light receiving array.

16. (Previously Presented) The apparatus of claim 15, wherein the light receiving array is a waveguide substrate, the waveguide substrate including:

a plurality of waveguide channels, each waveguide channel having a light input end proximate the substantially continuous lamina of light and an output end; and

a plurality of photosensitive elements, each photosensitive element positioned proximate the output end of one of the waveguide channels, and configured to convert a light signal received through the waveguide channel and to convert it into an electrical signal.

17. (Previously Presented) The apparatus of claim 16, wherein the photosensitive elements comprise one of the following types of photosensitive elements: charge coupled devices or Metal Oxide Semiconductor (MOS) imaging devices.

18. (Previously Presented) The apparatus of claim 16, wherein the light receiving array further comprises a plurality of light receiving elements configured to direct incident light from the substantially continuous lamina into the light input end of each of the plurality of waveguide channels respectively.

19. (Previously Presented) The apparatus of claim 18, wherein the light receiving elements comprises:

(i) a single lens;

(ii) a compound lens; or

(iii) an optical system.

20. (Previously Presented) The apparatus of claim 15, wherein the optical position detection device further comprises a light filter to filter a selected wavelength range of light from the substantially continuous lamina of light.

21. (Previously Presented) The apparatus of claim 1, wherein the substantially continuous lamina of light defines a two dimensional plane and the optical position detection device further comprises a first light receiving array positioned along one side of the substantially continuous lamina and a second light receiving array positioned along a second side of the substantially continuous lamina, wherein the first side and the second side are adjacent to one another.

22. (Previously Presented) The apparatus of claim 21, wherein the light source further comprises a first light source and a second light source positioned along a third side and an fourth side of the substantially continuous lamina, the third side and the fourth side being adjacent to one another and being opposite of the first side and the second side respectively.

23. (Previously Presented) The apparatus of claim 1, further comprising a sleep mode element configured to dim the substantially continuous lamina of light if a data entry is not detected by the optical position detection device after a predetermined period of time.

24. (Previously Presented) A method, comprising;

interrupting a substantially continuous lamina of light at selected position, the selected position representing a data entry to a data input device; and

calculating the coordinate location of the interrupt in the substantially continuous lamina of light to determine the data entry.

25. (Previously Presented) The method of claim 24, wherein the interrupting the substantially continuous lamina of light at the selected position comprises:

identifying a position on a display screen corresponding to a data entry;

touching with an input device the position on the display screen corresponding to the data entry; and

interrupting the substantially continuous lamina of light positioned in the free space adjacent the display screen during the touching of the display screen with the input device; wherein the method further comprises:

identifying the data entry by determining the coordinates of the interruption in the substantially continuous lamina of light.

26. (Previously Presented) The method of claim 25, wherein the determining the coordinates of the interruption further comprises:

determining the position where incident lamina light is blocked at one or more of a plurality of light receiving elements.

27. (Previously Presented) The method of claim 24 further comprising generating the substantially continuous lamina of light prior to interrupting the substantially continuous lamina of light.

28. (Currently Amended) A method, comprising;

providing a data input device, ~~the provided~~ said providing the data input device comprising:

providing a light source;

providing a ~~configured to create~~ a substantially continuous lamina of light from the provide light source, the substantially continuous lamina of light being generated when the data input device ~~is~~ on; and

providing an optical position detection device, optically coupled to the continuous lamina of light, and configured to detect data entries to the provided input device by determining the location of interrupts in the provided continuous lamina caused when data is entered to the input device.

29. (Previously Presented) The method of claim 28, further comprising providing a display screen, the provided substantially continuous lamina of light being positioned in the free space adjacent the provided display screen, whereby the substantially continuous lamina of light in the free space adjacent the provided display screen is interrupted when data entries directed to the provided display screen are made by contacting the display screen.

30. (Previously Presented) The method of claim 28, wherein the provided substantially continuous lamina of light defines a two dimensional plane and the provided optical position detection device further comprises providing a first light receiving array positioned along one side of the substantially continuous lamina and providing a second light receiving array positioned along a second side of the substantially continuous lamina, wherein the first side and the second side are adjacent to one another.

31. (Previously Presented) The method of claim 30, further comprising providing a first light source and providing a second light source positioned along a third side and an fourth side of the substantially continuous lamina, the third side and the fourth side being adjacent to one another and being opposite of the first side and the second side respectively.

32. (Previously Presented) A method of claim 28, wherein the provided substantially continuous lamina comprises:

(i). a one dimension plane defined by a first axis;

(ii) a two dimensional plane defined by a first axis and a second axis; or

(iii) a three dimensional space defined by a first axis, a second axis, and a third axis.

33. (Previously Presented) The method of claim 28, wherein the provided substantially continuous lamina of light is of uniform intensity.

34. (Previously Presented) The method of claim 28, wherein the provided substantially continuous lamina of light is of non-uniform intensity.

35. (Previously Presented) The method of claim 28, wherein the provided substantially continuous lamina of light is periodically cycled on and off during operation of the provided data input device.

36. (Previously Presented) The method of claim 35, further comprising providing a subtraction device configured to subtract the measured ambient light during an off cycle of the substantially continuous lamina of light from the measured light during an on cycle of the substantially continuous lamina of light.

37. (Previously Presented) The method of claim 29, wherein the display screen is for one of the following types of devices: a data entry device, a personal computer, a workstation, a computer server, a mobile computer, a point of sale device, a personal digital assistant (PDA), a cell phone.

38. (Previously Presented) The method of claim 28, wherein the provided substantially continuous lamina of light is generated from a collimated light source.